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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,268	02/17/2004	Timothy E. Durham	GCSD-1484 (51354)	3429
27975	7590	06/03/2005	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			VY, HUNG T	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*EX*

<b>Office Action Summary</b>	<b>Application No.</b> 10/780,268	<b>Applicant(s)</b> DURHAM ET AL.	
	<b>Examiner</b> Hung T. Vy	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

14, 15, 26, 27, 38, 39

- 4) ☒ Claim(s) 1-13, 17-25 and 28-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17-25, 28-37 is/are rejected.
- 7) ☒ Claim(s) 14, 15, 26, 27, 38 and 39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/17/2004</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. In response to the terminal disclaimer to obviate a double patenting to the U.S. Patent No. 6,856,297; 6,876,336 and 6,894,655, ~~the~~ <sup>are</sup> claims 1-39 ~~is~~ pending.

**Specification**

2. The specification has been checked to the extent necessary to determine the presence of possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

**Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13, 17-25 and 28-37 are rejected under 35 U. S. C. § 102 (b) as being anticipated by Durham, U.S. Patent. No. 6,417,813.

Claims 1, 16, and 28, Durham discloses method for making a phased array antenna and a phased array antenna comprising: a substrate 23; and a patterned conductive layer 49 on said substrate 23 and defining a plurality of slotted dipole antenna elements 40 each having a medial feed portion 42 associated therewith, each slotted dipole antenna element 40 comprising a pair of slotted legs 49 extending outwardly from the medial feed portion 42, pairs of adjacent slotted legs 49 of adjacent slotted dipole antenna elements 40 including respective spaced apart end portions 47, it is inherent that with the same structure as space apart end portions 47, having predetermined shapes and relative positioning so the phased array antenna provides increased inductive coupling between the adjacent slotted dipole antenna elements (See fig. 3-4).

Claims 2, 17, and 29, Durham discloses the legs of a pair thereof are coupled at the medial feed portion 42 to define a continuous slot (See fig. 3).

Claims 3, 18, and 30, Durham discloses leg includes an elongated slotted body portion, and an enlarged slotted width end portion 46 at an end of the elongated slotted body portion (See fig. 4A).

Claim 4, Durham discloses the spaced apart end portions 47 in adjacent slotted legs 49 include interdigitated portions 47 (See fig. 4A).

Claims 5, 19, and 31, Durham discloses slotted leg 49 includes an elongated slotted body portion, an enlarged slotted width end portion 47 (See fig. 4A) connected at an end the portion, and a plurality of outwardly 53 from the enlarged elongated slotted body slotted fingers extending slotted width end portion (See fig. 4A).

Claims 6, 20, and 32, Durham discloses the phased array antenna has a desired frequency range; and wherein the spacing 47 between the end portions of adjacent slotted legs 49 is less than about one-half a wavelength of a highest desired frequency (See column 6, line 1-8).

Claims 7, 21, and 33, Durham discloses plurality of slotted dipole antenna elements 40 comprise first and second sets of orthogonal slotted dipole antenna elements to provide dual polarization (See column 3, line 1-3).

Claim 8, Durham discloses a ground plane 30 adjacent said plurality of slotted dipole antenna elements (40)(see fig. 2).

Claims 9, 22, and 34, Durham discloses the phased array antenna has a desired frequency range; and wherein said ground plane 30 spaced from said plurality of slotted dipole antenna

elements 40 less than about one-half wavelength highest desired frequency (See column 6, line 41-55).

Claims 10,23, and 35, Durham discloses pluralities of slotted dipole antenna elements 40 are arranged at a density in a range of about 100 to 900 per square foot (See column 5, line 1-5).

Claims 11,24 and 36, Durham discloses plurality of slotted dipole antenna elements 40 are sized and relatively positioned so that the phased array antenna is operable over a frequency range of about 2 to 30 GHz (See column 5, line 6).

Claim 12, Durham discloses plurality of slotted dipole antenna elements are sized and relatively positioned so that the phased array antenna is operable over a scan angle of about + 60 degrees (See column 5, line 6).

Claims 13,25 and 37, Durham discloses at least one dielectric layer 22 adjacent said patterned conductive layer 20 (See fig. 2).

#### **Allowable Subject Matter**


4. Claims 14-15, 26-27 and 38-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior art of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed impedance element electrically connected to said patterned conductive layer between the spaced apart end portions of adjacent slotted legs of adjacent slotted dipole antenna elements.

### Conclusion

5. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (571) 272-1954. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-7722 for After Final communications.

Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either private Pair or Public Pair. Status information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hung T. Vy  
Art Unit 2821  
May 25, 2005.



**WILSON LEE**  
**PRIMARY EXAMINER**